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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/098,604 | 03/16/2002 | Michael Seul | 4363-4010US3 | 7665 |
| 7590 | 11/18/2004 | | | EXAMINER |
| Eric P. Mirabel Bioarray Solutions 35 Technology Drive Warren, NJ 07059 | | | | KIM, PETER B |
| | | | ART UNIT | PAPER NUMBER |
| | | | | 2851 |

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|------------------------------|------------------------|---------------------|--|
| | 10/098,604 | SEUL ET AL. | |
| Examiner | Art Unit | | |
| Peter B. Kim | 2851 | | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 29 September 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-31 is/are pending in the application.
4a) Of the above claim(s) 8-14 and 16-27 is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-7, 15 and 28-31 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a))

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

Election/Restrictions

This application contains claims 8-14, and 16-27 drawn to an invention nonelected with traverse in Paper filed on Sept. 29, 2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Information Disclosure Statement

Page 6 of IDS filed on Aug. 22, 2003 is illegible. Document titled “Microsphere Selection Guide” on page 8 of IDS is not included in the file.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al. (Jain) in view of Murakami (6,090,458).

Jain discloses an apparatus for programmably generating an illumination pattern superimposed onto a substrate, said illumination pattern having a predetermined arrangement of light and dark zones, said apparatus comprising: an illumination source (1); a reconfigurable mask (3) composed of an array of pixels comprising a digital micromirror device, said pixels

being actively controllable and directly addressable by means of a computer-controlled circuit and computer interface, said computer-controlled circuit being operated using a software program providing temporal control of the intensity of illumination emanating from each pixel so as to form the illumination pattern comprising the predetermined arrangement of light and dark zones; and a projection system (4) suitable for imaging the reconfigurable mask onto the substrate (5) by permanently altering a physical chemical property of the substrate surface in accordance with the pattern. Jain also discloses controlling pixels to adjust levels of transmissivity or reflectivity (col. 15). However, Jain does not disclose an imaging system incorporating a camera capable of viewing said substrate with superimposed illumination pattern. Murakami discloses in col. 3, lines 36-44, an image system incorporating a camera for viewing the substrate with the pattern. An official notice is taken that computers are capable of accepting a video display adapter. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the camera of Murakami to the invention of Jain in order to observe the image on the substrate to ensure that the pattern is superimposed at the correct location as taught by Murakami in col. 3, lines 45-50.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al. (Jain) in view of Murakami and Datta et al. (Datta) (5,567,304).

Jain discloses an apparatus for programmably generating an illumination pattern superimposed onto a substrate, said illumination pattern having a predetermined arrangement of light and dark zones, said apparatus comprising: an illumination source (1); a reconfigurable mask (3) composed of an array of pixels comprising a digital micromirror device, said pixels

being actively controllable and directly addressable by means of a computer-controlled circuit and computer interface, said computer-controlled circuit being operated using a software program providing temporal control of the intensity of illumination emanating from each pixel so as to form the illumination pattern comprising the predetermined arrangement of light and dark zones; and a projection system (4) suitable for imaging the reconfigurable mask onto the substrate (5) by permanently altering a physical chemical property of the substrate surface in accordance with the pattern. Jain also discloses controlling pixels to adjust levels of transmissivity or reflectivity (col. 15). However, Jain does not disclose an imaging system incorporating a camera capable of viewing said substrate with superimposed illumination pattern. Jain also does not disclose a substrate comprising planar electrode being separated by a gap containing electrolyte. Murakami discloses in col. 3, lines 36-44, an image system incorporating a camera for viewing the substrate with the pattern. Datta discloses in col. 12, lines 5-34, a substrate with electrodes and gap filled with electrolyte. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the camera of Murakami to the invention of Jain in order to observe the image on the substrate to ensure that the pattern is superimposed at the correct location as taught by Murakami in col. 3, lines 45-50 and to provide the substrate of Datta to Jain in order to avoid the contact resistance problem as taught by Datta in col. 1 and 2.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al. (Jain) in view of Murakami as applied to claim 1 above, and further in view of Datta et al. (Datta).

The further difference between the claimed invention and modified Jain is a substrate comprising planar electrode being separated by a gap containing electrolyte. Datta discloses in col. 12, lines 5-34, a substrate with electrodes and gap filled with electrolyte. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the substrate of Datta to Jain in order to avoid the contact resistance problem as taught by Datta in col. 1 and 2.

Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al. (Jain) in view of Murakami as applied to claim 28 above, and further in view of Walt et al. (Walt) (6,266,459).

The further difference between the claimed invention and modified Jain is generating pattern on the surface of substrate by exposure of solvent, a chemical reaction and the wavelength of the light in the visible spectrum. Walt discloses generating pattern on the surface of substrate by exposure of solvent, a chemical reaction and the wavelength of the light in the visible spectrum (col. 12, line 60-col. 13, line 33, col. 15, lines 1-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the generating the substrate pattern as taught by Walt by using the light in the visible spectrum to the invention of Jain in order to produce an accurate pattern on the substrate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Peter B. Kim
Primary Examiner
Art Unit 2851

November 12, 2004